WHAT IS CLAIMED IS:

1. A wireless LAN apparatus comprising a reception section which receives frames including fragments respectively, each of the fragments having a predetermined size into which first data is divided;

a reading section which reads the total number of fragments based on the first data, the total number of fragments being containing the first frame based on the first data, the first frame being first received by the reception section;

a queue that stores the received frames for each fragment;

a free-area detecting section which detects free areas in the queue;

a determining section which determines whether the amount of the first data based on the total number of fragments in the first data is larger than the amount of free areas in the queue or is equal to or smaller than the amount of free areas in the queue; and

a control section having a function of inserting fragments based on the first data into the queue if the determining section determines that the amount of the first data is equal to or smaller than the amount of free areas in the queue.

2. The wireless LAN apparatus according to claim 1, wherein if the determining section determines that the amount of the first data is larger than the

amount of free areas in the queue, then the determining

section determines whether a difference between the

amount of the first data and the amount of free areas

in the queue is larger than a predetermined amount or

is equal to or smaller than the predetermined amount,

and

the control section further functions in the

following manner: if the determining section determines

that the difference between the amount of the first

data and the amount of free areas in the queue is equal

to or smaller than the predetermined amount, the

control section discards fragments of second data which

is one of items of data some fragments of which have

already been inserted into the queue, the second data

having a smallest percentage of the total number of

fragments taken up by the number of fragments already

inserted, while inserting the fragments based on the

first data into the queue, and if the determining

section determines that the difference between the

amount of the first data and the amount of free areas

in the queue is larger than the predetermined amount,

the control section discards the fragments based on the

first data.

3. The wireless LAN apparatus according to

claim 2, wherein the control section further has a

function of discarding the predetermined amount of

pieces of data from the items of data in the order of

increasing percentage of the total number of fragments taken up by the number of fragments already inserted.

4. The wireless LAN apparatus according to claim 2, wherein the control section further has a function of discarding an amount of pieces of data equal to such fragments based on the first data that can all be inserted into the queue, from the items of data in the order of increasing percentage of the total number of fragments taken up by the number of fragments already inserted.

5. The wireless LAN apparatus according to claim 1, wherein if the determining section determines that the amount of the first data is larger than the amount of free areas in the queue, then the determining section determines whether a difference between the amount of the first data and the amount of free areas in the queue is larger than a predetermined amount or is equal to or smaller than the predetermined amount, and

the control section further functions in the following manner: if the determining section determines that the difference between the amount of the first data and the amount of free areas in the queue is equal to or smaller than the predetermined amount, the control section discards fragments of second data which is one of items of data some fragments of which have already been inserted into the queue, the second data

having a first frame received earliest, while inserting

the fragments based on the first data into the queue,

and if the determining section determines that the

difference between the amount of the first data and the

amount of free areas in the queue is larger than the

predetermined amount, the control section discards the

fragments based on the first data.

6. The wireless LAN apparatus according to

claim 5, wherein the control section further has a

function of discarding the predetermined amount of

pieces of data from the items of data in the order of

the time at which the first frame is received.

7. The wireless LAN apparatus according to

claim 5, wherein the control section further has a

function of discarding an amount of pieces of data

equal to such fragments based on the first data that

can all be inserted into the queue 16, from the items

of data in the order of the time at which the first

frame is received.

8. The wireless LAN apparatus according to

claim 1, wherein if the determining section determines

that the amount of the first data is larger than the

amount of free areas in the queue, then the determining

section determines whether a difference between the

amount of the first data and the amount of free areas

in the queue is larger than a predetermined amount or

is equal to or smaller than the predetermined amount,

and

the control section further functions in the following manner: if the determining section determines that the difference between the amount of the first data and the amount of free areas in the queue is equal to or smaller than the predetermined amount, the control section discards fragments of second data which is one of items of data some fragments of which have already been inserted into the queue, a percentage of the total number of fragments in the second data taken up by the number of fragments already inserted being smaller than a predetermined percentage, a first frame of the second data being received earliest, while inserting the fragments based on the first data into the queue, and if the determining section determines that the difference between the amount of the first data and the amount of free areas in the queue is larger than the predetermined amount, the control section discards the fragments based on the first data.

9. The wireless LAN apparatus according to claim 8, wherein the control section further has a function of discarding the predetermined amount of pieces of data from the items of data, in which the percentage is smaller than the predetermined percentage, in the order of the time at which the first frame is received.

10. The wireless LAN apparatus according to

claim 8, wherein the control section further has a function of discarding an amount of pieces of data equal to such fragments based on the first data that can all be inserted into the queue, from the items of data, in which the percentage is smaller than the predetermined percentage, in the order of the time at which the first frame is received.

11. The wireless LAN apparatus according to claim 1, further comprising a total-number detecting section which detects the total number of fragments in third data;

an inserting section which inserts the total number of fragments in the third data into a first frame containing one of a plurality of fragments of the third data which one is to be transmitted first; and

a transmission section which transmits the first frame based on the third data.

12. A wireless LAN apparatus comprising a reception section which receives frames including fragments respectively, each of the fragments having a predetermined size into which first data is divided;

a reading section which reads the total number of fragments based on the first data, the total number of fragments being containing the first frame based on the first data, the first frame being received first by the reception section;

a determining section which determines whether the

percentage of the total number of fragments in the first data taken up by the number of already received fragments based on the first data to is equal to or larger than a predetermined value or is smaller than the predetermined value;

a control section which sets a max receive lifetime indicative of an allowable range of time required to receive fragments based on one data by increasing the max receive lifetime by a predetermined extension time if the determining section determines that the percentage is larger than the predetermined value; and

an aging processing section which executes a process of discarding data for which all fragments have not been received when the max receive lifetime has elapsed.

13. The wireless LAN apparatus according to claim 12, wherein the determining section carries out determination when the max receive lifetime has elapsed.

14. The wireless LAN apparatus according to claim 12, wherein the determining section carries out determination when a predetermined time has elapsed, the predetermined time being shorter than the max receive lifetime, and

if the determining section determines that the percentage is equal to or larger than the predetermined

value, the control section sets the max receive
lifetime by increasing the lifetime by the predeter-
mined extension time, and if the determining section
determines that the percentage is smaller than the

5   predetermined value, the control section sets the max
receive lifetime by reducing the lifetime by a
predetermined shortening time.

15.   The wireless LAN apparatus according to
claim 12, further comprising a total-number detecting

10   section which detects the total number of fragments in
second data;

an inserting section which inserts the total
number of fragments in the second data into a first
frame containing one of a plurality of fragments of the

15   second data which one is to be transmitted first; and

a transmission section which transmits the first
frame based on the second data.

16.   The wireless LAN apparatus according to
claim 1, wherein the control section further has a

20   function of discarding the fragments based on the first
data into the queue if the determining section
determines that the amount of the first data is larger
than the amount of free areas in the queue.